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SOME NEW SPECIES AND VARIETIES IN THE
GENUS HAWORTHIA. IV.

(With Plates XI & XII.)

By G. G. SMITH.

Haworthia viscosa var. **cougaensis** G. G. Smith. (Liliaceae-Aloineae.)

Sect. Trifariae.

Caulis foliatus longus 9 cm., latus una cum foliis 32 mm.

Folia spisse imbricata, tortuose trifaria, longa 21 mm., lata parte media 14 mm.; *supra* concava, papillis clarioribus tertia parte superiore ornata; *subtus* convexa, basi laevia, parte superiore minute scabrosa.

Pedunculus simplex, diam. $\frac{3}{4}$ mm., longus una cum racemo 28 cm.; *racemus* longus 10 cm., floribus flosculisque circiter 11 ornatus; *pedicelli* longi 4 mm., diam. vix $\frac{3}{4}$ mm.; *perianthium* viride-album, longum 16 mm.; *ovarium* longum $2\frac{3}{4}$ mm., diam. $1\frac{1}{8}$ mm.

Leafy stem ascending, 9 cm. long, 32 mm. across including the leaves, slowly proliferous from the base.

Leaves closely imbricated, spirally trifarious, 21 mm. long, 14 mm. broad and 4 mm. thick at the middle, oval, acute-acuminate, cuspidate, the old recurved at an angle of about 90 degrees, the young less recurved, the sheathing leaf base 3 mm. long on the side opposite to the lamina;

KEY TO THE DRAWINGS.

F = Leaf face.
LS = Longitudinal section.
SB = Section near base.
INF = Inflorescence.
O & S = Ovary and Stamens.
C = Capsule.

B = Leaf back.
SM = Section near middle.
ST = Section near tip.
Del. M. C. L. = Drawn by Miss M.
Courtenay-Latimer.

face concave, becoming triangular-concave towards the tip, smooth below with small lighter coloured papillae in the upper $\frac{1}{3}$, pink at base, light green up to about the middle, then darker green becoming lighter green near tip, dull; *back* convex, smooth below, minutely scabrous in the upper $\frac{1}{3}$, same colour as face, dull; *keel* 1, in the upper $\frac{1}{2}$, obliquely arranged, obtuse below, acute above; *margins* acute below, blunt in the upper $\frac{2}{3}$, dark green below, lighter above, gristly, $\pm$ shining.

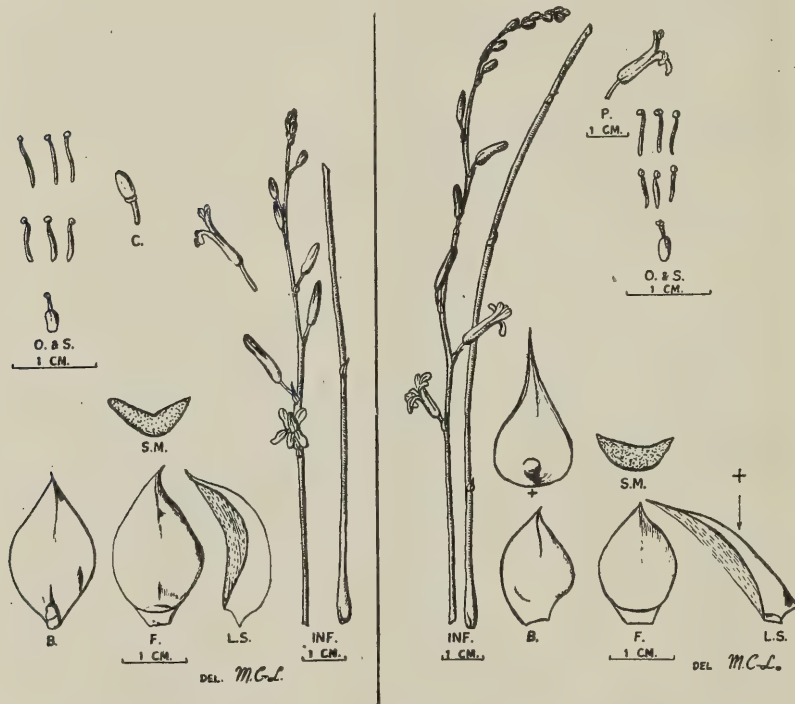


Fig. 1.

H. viscosa var. *cougensis*.*H. viscosa* var. *viridissima*.

Peduncle simple, terete, $\frac{3}{4}$ mm. diam., 28 cm. long including the raceme, brown below; *raceme* 10 cm. long, about $11 \pm$ spirally arranged flowers and buds, 1–2 open simultaneously; *pedicels* 4 mm. long, barely $\frac{3}{4}$ mm. diam., ascending, light brown; *sterile bracts* 2, the lower one 7 cm. from base of peduncle; *fertile bracts* $2\frac{1}{2}$ mm. long, lanceolate, subulate, light brown with a broad dark brown nerve; *perianth* greenish-

white, 16 mm. long, the cylindrical-hexagonal sub-globose base fully $2\frac{1}{2}$ mm. diam., constricted to $2\frac{1}{4}$ mm. above, ascending, $\pm$ curved; *upper segments* obtuse, recurved, not spreading; *lower segments* obtuse, narrower, more recurved, the inner one $\pm$ channelled, the outer ones replicate, spreading; *stamens* 5 and 6 mm. long; *ovary* $2\frac{3}{4}$ mm. long, $1\frac{1}{8}$ mm. diam., light green; *style* 3 mm. long, greenish, bent, capitate.

Habitat: Cape Province; Willowmore Dist. (Type, G. G. Smith 2902, in East London Museum Herbarium; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch and Nat. Herb., Pretoria.)

Distribution: not further known.

This variety was collected by the Author in Nov. 1939 between Couga and Zandvylakte in the Willowmore Dist. It is nearest to *H. viscosa* v. *viridissima* G. G. Smith, which plant however is darker green, more proliferous, the leaves are less spirally arranged and less closely packed, the old leaves less recurved, has more flowers and buds, and a larger perianth.

Haworthia viscosa* var. *viridissima G. G. Smith (Liliaceae-Aloineae)
Sect. Trifariae.

Caulis foliatus erectus vel sub-erectus, altus 10 cm., diam. una cum foliis 35 mm., a basi proliferans.

Folia ordinate vel plus minusve tortuose trifaria divergentia, recurvata, longa 22 mm., lata inferiore parte 13 mm., ovata, acuminata; *supra* concava, minute scabrosa; *subtus* convexa, apicem versus acute triquetra, minute scabrosa, basim versus pallide viridia, superius obscure viridia.

Pedunculus simplex, diam. vix 1 mm., longus una cum racemo 17 mm., basi rubido-fuscus; *racemus* longus $5\frac{1}{2}$ cm.; *pedicelli* longi $4\frac{1}{4}$ mm., diam. $\frac{3}{4}$ mm. fuscido-virides; *bractae fertiles* longae 4 mm., lanceolate subulatae; *perianthium* fuscido-album, longum 16 mm.; *ovarium* longum $3\frac{1}{2}$ mm., diam. $1\frac{1}{4}$ mm., fulvo-viride.

Leafy stem erect to sub-erect, 10 cm. tall, 35 mm. across including the leaves, proliferous from the base and forming clusters.

Leaves regularly to $\pm$ spirally trifarious, imbricated, spreading, recurved, 22 mm. long, 13 mm. broad below the middle, $3\frac{1}{2}$ mm. thick at middle, the sheathing leaf base 3 mm. long on the side opposite to lamina, oval, acuminate, cuspidate; *face* concave below, the upper $\frac{1}{4}$ triangular, the upper $\frac{1}{3}$ and towards the margins to the middle of leaf minutely scabrous, with 2 dark green longitudinal lines which are only somewhat distinct in the lower part of leaf, pink towards the base, light green

above, darker green towards the tip, somewhat shining; *back* rounded, acutely triangular towards the tip, the upper $\frac{3}{4}$ minutely scabrous, with $7 \pm$ indistinct longitudinal lines visible only in lower part of leaf, light green towards the base, dark green above, dull; *keel*, 1 in upper $\frac{1}{3}$, concolorous, horny, shining, acute; *margins* acute below, the upper $\frac{3}{4}$ rounded, light greenish-brown, horny, shining.

Peduncle simple, terete, barely 1 mm. diam., 17 cm. long including the raceme, reddish-brown below; *raceme* $5\frac{1}{2}$ cm. long, about 12 unilaterally arranged flowers and buds, 2 open simultaneously; *pedicels* $4\frac{1}{4}$ mm. long, $\frac{3}{4}$ mm. diam., ascending, greenish-brown; *sterile bracts* 2, $4\frac{1}{2}$ mm. long, the lower one $6\frac{1}{2}$ cm. from the base of peduncle; *fertile bracts* 4 mm. long, lanceolate-subulate, white with a broad reddish-brown nerve; *perianth* brownish-white, 16 mm. long, the cylindrical-hexagonal shortly stipitate subglobose base 3 mm. diam., constricted to $2\frac{3}{4}$ mm. above, oblong, ascending, hardly curved; *upper segments* obtuse, channelled, the inner one broad, recurved about 90 degrees near the tip, the face colour white towards the tip, pale green below, with a broad green nerve, the 2 outer segments more recurved, spreading, white with a broad greenish-brown nerve; *lower segments* obtuse, the inner one channelled, narrow, shortly revolute, the face colour white towards the tip, pale green below with a broad greenish-brown nerve, the 2 outer segments replicate, very recurved, spreading, the face colour white, with a broad greenish-brown nerve; *stamens* 6 and 7 mm. long; *ovary* $3\frac{1}{2}$ mm. long, $1\frac{1}{4}$ mm. diam., yellowish-green; *style* 4 mm. long, bent, capitate, light yellowish-green.

Habitat: Cape Province; Steytlerville District. (Type, G. G. Smith, 2915, in the East London Museum Herb.; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch and Nat. Herb., Pretoria).

Distribution: Not further known.

This variety was collected by the Author in Nov., 1939, about 12 miles S.E. of Steytlerville. It differs from the species in its bright green colour, is not as scabrous, margins smooth or almost smooth, leaves not as sandy.

Haworthia asperiuscula var. **sub-integra** G. G. Smith. (Liliaceae-Aloineae). Sect. Trifariae.

Caulis foliatus erectus, altus 10 cm., latus una cum foliis 30 mm., a basi lente proliferans.

Folia ordinate vel plus minusve tortuose trifaria, divergentia, plus minusve recurvata, longa 20 mm., late mediam partem prope 15 mm., ovato-deltoidea, abrupte acuta, cuspidata; *supra* concava, minute

scabrosa, parte inferiore pallide viridia, parte superiore olivaceo-viridia ; *subtus* convexa, minute scabrosa, obscure viridia.

Pedunculus simplex ellipticus $1 \times 1\frac{1}{4}$ mm., longus una cum racemo 26 cm., basi obscure fuscus ; *racemus* longus 9 cm. ; *pedicelli* longi $3\frac{1}{2}$ mm., elliptici $\frac{3}{4} \times 1$ mm., virides ; *bracteae fertiles* longae 4 mm., lanceolato-deltaeidae, acutae, albae, tenui nervo fusco ornatae ; *perianthium* longum 16 mm. ; *ovarium* longum 3 mm., diam. $1\frac{1}{2}$ mm., pallide fulvo-viride.

Leafy stem erect, 10 cm. long, 30 mm. across including the leaves, slowly proliferous from the base and forming clusters.

Leaves regularly to somewhat spirally trifarious, imbricated, spreading, $\pm$ recurved, 20 mm. long, 15 mm. broad near the middle, $5\frac{1}{2}$ mm. thick, the sheathing leaf base 4 mm. long on opposite side to the lamina, ovate-deltoid, abruptly acute, cuspidate ; *face* concave below, triangular towards tip, minutely scabrous and sandy, light green in the lower half, olive green and sandy above, dull ; *back* rounded, triangular near tip, minutely scabrous, dark green and sandy, dull ; *keel* 1, in the upper $\frac{1}{2}$, $\pm$ obliquely arranged, obtuse below, acute above, with very fine papillae and minute, crowded, horny, concolorous teeth ; *margins* acute in the lower half, blunt above, scabrous, concolorous.

Peduncle simple, 1 by $1\frac{1}{4}$ mm. elliptic, 26 cm. long including the raceme, dark brown below ; *raceme* 9 cm. long, about 14 spirally arranged flowers and buds, 2 open simultaneously ; *pedicels* $3\frac{1}{2}$ mm. long, $\frac{3}{4}$ by 1 mm. elliptic, erect-spreading, green ; *sterile bracts* 3, $5\frac{1}{2}$ mm. long, the lowest $7\frac{1}{2}$ cm. from the base ; *fertile bracts* 4 mm. long, lanceolate-deltoid, acute, white, with a fine brown nerve ; *perianth* white, 16 mm. long, the cylindrical-hexagonal sub-globose base $3\frac{1}{2}$ mm. diam., very slightly constricted above, oblong, erect-spreading, not curved ; *upper segments* obtuse, channelled, face colour of the 2 outer white with a medium-fine nerve which is red at tip and green below, recurved about 90 degrees, spreading, face colour of inner segment silvery-white at tip, green below, with a fine green nerve, straight, tip incurved ; *lower segments* obtuse, face colour of the 2 outer segments silvery-white, with a fine greenish-brown nerve, recurved about 80 degrees, replicate-wavy, spreading, face colour of inner segment white with a greenish-brown nerve, $\pm$ channelled, $\pm$ revolute ; *stamens* 6 and $6\frac{1}{2}$ mm. long ; *ovary* 3 mm. long, $1\frac{1}{2}$ mm. diam., light yellowish-green ; *style* $2\frac{3}{4}$ mm. long, straight, $\pm$ capitate.

Habitat : Cape Province ; Ladismith Dist. (Type, *G. G. Smith* 5369, in East London Museum Herb. ; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch ; Nat. Herb., Pretoria).

Distribution : not further known.

This variety was collected by Mr. J. Dekenah of Riversdale in Oct., 1942, near Ladismith, growing on a very dry rocky hill under bushes about 10 ft. high. It is darker green than the species and the margins are horny and not scabrous.

Haworthia Reinwardtii var. **bellula** G. G. Smith. (Liliaceae-Aloineae.)
Sect. Coarctatae.



Fig. 2.

H. asperiuscula var. *sub-integra*.

H. Reinwardtii var. *bellula*.

Caulis foliatus longus circiter 5 cm., diam una cum foliis 20 mm., a basi proliferans.

Folia multifaria, longa 15 mm., lata basim prope 7 mm., ovata, acuta; *supra* concava, laevia, basim prope claro-viridia, apicem versus obscure viridia; *subtus* convexa, tuberculis prominentibus oblongatis albidis in 8—10 lineas transversales instructis ornata.

Pedunculus diam. $1\frac{1}{2}$ mm., longus circiter 23 cm. una cum racemo longo 9 cm.; *pedicelli* longi 2 mm., diam. 1 mm.; *bracteae steriles* 2, longae 4 mm.; *bracteae fertiles* longae 3 mm.; *perianthium* longum 17 mm., basi cylindrico-hexagonali diam. $3\frac{1}{2}$ mm.; *ovarium* longum 3 mm., diam. $1\frac{1}{4}$ mm., viride; *stylus* longus $1\frac{1}{4}$ mm.

Leafy stem simple, about 5 cm. tall and 20 mm. diam. including the leaves, proliferous from the base and forming dense clusters.

Leaves crowded, multifarious, ascending, incurved, 15 mm. long, 7 mm. broad near the base, $3\frac{1}{4}$ mm. thick, ovate, acute; *face* concave, with 3 sometimes indistinct raised concolorous lines, the middle one sometimes reaching the tip, the others meeting the middle line one above the other below the tip, smooth, light green near the base and darker green above; *back* convex, beset with raised oblong whitish transversely truncated $\frac{3}{4}$ mm. diam. tubercles in 8—10 transverse rows and in about 10 indistinct longitudinal rows, the transverse rows about $1\frac{1}{2}$ mm. apart at the middle of the leaf, light green below, dark green above, obtusely keeled below, becoming $\pm$ acute towards the tip.

Peduncle simple, $1\frac{1}{2}$ mm. diam., about 23 cm. long including the raceme, brown below; *raceme* 9 cm. long, about 16 spirally arranged flowers and buds, 1—2 open simultaneously; *pedicels* 2 mm. long, 1 mm. diam., $\pm$ erect, light brown; *sterile bracts* 2, 4 mm. long, the lower one 8 cm. from base of peduncle; *fertile bracts* 3 mm. long, deltoid, acuminate, dull white with a medium fine very dark brown nerve; *perianth* white, 17 mm. long, the cylindrical-hexagonal subglobose base $3\frac{1}{2}$ mm. diam., oblong, only slightly constricted above, ascending, curved; *upper segments* obtuse, channelled, slightly recurved, face colour of the 2 outer white with a broad dark greenish-brown nerve, recurved, $\pm$ spreading, face colour of the inner segment white at tip, green below, with a broad greenish-brown nerve, less recurved; *lower segments* obtuse, very recurved, face colour of the 2 outer white at tip, green below, with a medium-fine greenish-brown nerve, replicate, $\pm$ spreading, face colour of the inner white with a broad greenish-brown nerve, channelled; *stamens* $4\frac{1}{2}$ and $5\frac{1}{2}$ mm. long; *ovary* 3 mm. long, $1\frac{1}{4}$ mm. diam., green; *style* $1\frac{1}{4}$ mm. long, yellowish-white, straight, $\pm$ capitate.

Habitat: Cape Province; Albany Division. (Type, *G. G. Smith* 3137, in East London Museum Herbarium; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch and Nat. Herb., Pretoria).

Distribution: not further known.

This very distinctive variety is described from material given to me by Miss. G. Britten of the Albany Museum Herbarium in Feb., 1940. It occurs about $4\frac{1}{2}$ miles from Grahamstown on the Cradock road, where

it has been found by several collectors ; the locality was pointed out to me by Miss Britten. This variety differs from the type and any of the varietal forms of *H. Reinwardtii* Haw., in its very small size. It is a pretty, neat, upright plant, forming dense clusters, and its distribution appears to be limited to the type locality.

Haworthia Otzenii G. G. Smith. (Liliaceae-Aloineae.) Sect. Retusae.

Rosetta acaulescens, diam. 60 mm.

Folia 15 circiter, longa 42 mm., lata 11 mm., oblongata, acuto-deltaidea ; *pars retusa* longa 14 mm., lata 11 mm., laevis, lineis 5—7 pallide viridibus ornata ; *subtus* convexa, laevia, basim versus clario-viridia, apicem versus pulliora ; *marginēs carinae* integri.

Pedunculus simplex, diam. $1\frac{1}{2}$ mm. ; *pedicelli* longi 1 mm., diam. $1\frac{1}{2}$ mm., valde obscure virides ; *perianthium* opace album, longum 17 mm., *ovarium* longum 3 mm., diam. $1\frac{1}{2}$ mm. ; *stylus* longus $1\frac{1}{8}$ mm.

Rosette acaulescent, 60 mm. diam., not or slowly proliferous from the base.

Leaves about 15, the young erect, the old ascending-erect, hardly recurved, firm, 42 mm. long, 11 mm. broad from lower end of end-area to base of leaf, 8 mm. thick at base of end-area, oblong, acute-deltoid ; end-awn absent ; *face below end-area* flat below, $\pm$ convex above, retused at an angle of about 60 degrees, pale green below, darker green above, dull ; *end-area* 14 mm. long, 11 mm. broad, $\pm$ convex below, $\pm$ flat near tip, smooth, pellucid green, $\pm$ shining, with 5 (—7) parallel pale green lines, the middle one longer but not reaching the tip, the others progressively shorter ; *back* convex, smooth, with very minute whitish longitudinal flecks, light green below, darker green above, dull ; *keel* 1, obliquely arranged in the upper $\frac{3}{4}$, $\pm$ triangular near tip, smooth ; *marginēs* $\pm$ acute, smooth.

Peduncle simple, terete, $1\frac{1}{2}$ mm. diam., 25 mm. long including the raceme, light brown below ; *raceme* 10 cm. long, about 18 spirally arranged flowers and buds, 2 open simultaneously ; *pedicels* 1 mm. long, $1\frac{1}{2}$ mm. diam., very dark green ; *sterile bracts* about 11, amplexicaul, the lower ones 12 mm. long, becoming shorter above, the lowest one 1 cm. from base of peduncle ; *fertile bracts* 10 mm. long, deltoid acuminate, white with a brown nerve ; *perianth* dull white, 17 mm. long, the cylindrical-triangular base 4 mm. diam., constricted to 3 mm. above, ascending, $\pm$ curved ; *upper segments* obtuse, channelled, the 2 outer ones recurved, not spreading, face colour dull white with a broad greenish-brown nerve, the inner segment less recurved, replicate towards the tip, shorter, face colour dull greenish-white with a broad greenish-brown nerve ; *lower*

segments obtuse, channelled, the outer ones $\pm$ replicate near tip, long recurved, spreading, face colour greenish-white with a broad green nerve, the inner segment more recurved, longer, face colour dull white with a broad greenish-brown nerve; *stamens* 5 and 6 mm. long; *ovary* 3 mm. long, $1\frac{1}{2}$ mm. diam., yellowish-green; *style* $1\frac{1}{8}$ mm. long, white, bent, capitate.

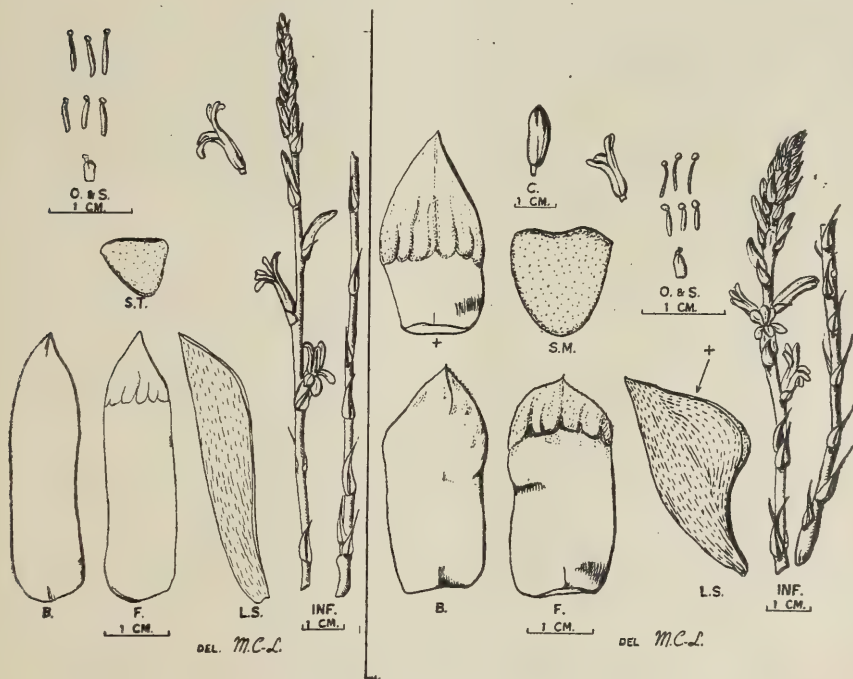


Fig. 3.

H. Otzenii.

H. Dekenahii var. *argenteo-maculosa*.

Habitat: Cape Province; Bredasdorp Dist. (Type, *G. G. Smith* 5478 (Otzen 6), in East London Museum Herbarium; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch; Nat. Herb., Pretoria).

Distribution: not further known.

This interesting species is named for its discoverer Mr. M. Otzen, a well-known succulent enthusiast of many years standing, who collected it near Napier, in the Bredasdorp District, and sent it to the Author in

Dec., 1943. It is nearest to *H. retusa* v. *mutica* (Haw.) Bak., but is easily distinguished by its much longer and more pointed leaves which are more upright.

Haworthia Dekenahii var. **argenteo-maculosa** G. G. Smith. (Liliaceae-Aloineae.) Sect. Retusae.

Rosette acaulescens, diam. 60 mm.

Folia longa 37 mm., lata 14 mm.; *supra sub parte retusa* plano-concava, pallide viridia; *parte retusa* convexa, plana vel tuberculis concoloribus inconspicue prominentibus lineisque 5 male distinctis ornata; *subtus* valde convexa, lineis circiter 10 indistinctis ornata.

Pedunculus simplex, longus una cum racemo multifloreato 14 cm.; *racemus* longus 6 cm.; *pedicelli* longi 1 mm., virides; *bracteae fertiles* longae $8\frac{1}{2}$ mm., albae, lato nervo obscure fusco percursae; *perianthium* opaco-album, longum 15 mm.; *ovarium* longum 3 mm., diam. $1\frac{1}{3}$ mm., pallide viride; *stylus* longus 1 mm., capitatus.

Rosette acaulescent, $3\frac{3}{4}$ cm. high, 60 mm. diam.

Leaves about 9, the young erect, $\pm$ incurved, the old ascending, recurved at tip, firm, 37 mm. long, 14 mm. broad and 7 mm. thick at base of end-area, $5\frac{1}{2}$ mm. thick below, ovate-oblong deltoid to broadly acute; *face below end-area* flat-concave, pale green with a dark band just below the end-area, dull; *end-area* retused at an angle of about 75 degrees, 15 mm. long and broad, convex, smooth or with inconspicuously raised concolorous tubercles, minutely scabrous and with short longitudinal whitish flecks, hardly shining, greenish pellucid, with 5 smudgy lines, the middle one only reaching or nearly reaching the tip of leaf, the lines converging but not meeting; back very rounded, light apple green, dark green towards tip, dull, with about 10 indistinct lines which are more indistinct below; *keel* entire, obliquely arranged, visible near tip; *margins* entire, $\pm$ acute below, $\pm$ round and corneous towards the tip, pellucid white in the upper $\frac{1}{3}$ and membranous below.

Peduncle simple, $\pm$ terete to elliptic $2\frac{1}{4}$ by 3 mm., including the many-flowered raceme 14 cm. long, light greyish-brown; *raceme* 6 cm. long, about 40 flowers and buds, one open at a time; *pedicels* 1 mm. long, $1\frac{1}{2}$ by 1 mm. elliptic, green; *sterile bracts* 15, 10 mm. long, the lowest 1— $1\frac{1}{2}$ cm. from base; *fertile bracts* $8\frac{1}{2}$ mm. long, deltoid acuminate, white with a broad dark brown nerve; *perianth* dull white, greyish-brown lined, 15 mm. long, the cylindrical-triangular base $3\frac{1}{2}$ mm. across, constricted to $2\frac{1}{2}$ mm. above, ascending, the tube $\pm$ curved; *upper segments* obtuse, the inner one channelled, recurved, the face colour white near tip and green below with a broad greenish-brown nerve, the

outer segments replicate towards the tip, recurved, spreading, longer and narrower than the inner, face colour dull white with a greenish-brown nerve; *lower segments* obtuse, the inner one channelled, long recurved, face colour white with a broad greenish-brown nerve, the outer replicate shorter than the inner, spreading, face colour white towards the tip and green below with a broad green nerve; *stamens* $4\frac{1}{4}$ and $4\frac{1}{2}$ mm. long; *ovary* 3 mm. long, $1\frac{1}{3}$ mm. diam., light green; *style* 1 mm. long, bent, capitate.

Habitat: Cape Province; Mossel Bay Dist. (Type, *G. G. Smith* 3959, in East London Museum Herb.; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch and Nat. Herb., Pretoria.)

Distribution: not further known.

This species is described from plants collected by Mr. S. Emett, Forest Officer, Alexandria, in April, 1941, growing in a stony outcrop a few miles east of Gouritz River Bridge. The plants flowered in the Author's garden in Dec., 1942 and 1943. They differ from the species by their blunter leaves and more flecked end-area.

Haworthia longibracteata G. G. Smith. (Liliaceae-Aloineae.) Sect. Retusae.

Rosetta acaulescens, lata 10 cm., a basi proliferans.

Folia 34 circiter, apicē incurvata, longa 55 mm., lata 17 mm., crassa sub basi partis retusae 10 mm., oblongato-ovata, acuto-acuminata; pars retusa longa 17 mm., lata 16 mm., laevis, lineis 4—7 percursa, linea media ad apicem pertinente; *subtus* laevia, paucis apicem versus maculis pellucidis longitudinalibus lineisque 9 obscure viridibus percursa; *marginēs carinaeque* raris dentibus albidis ornati.

Pedunculus simplex, diam. $2\frac{1}{4}$ mm.; *pedicelli* longi $2\frac{1}{2}$ mm., diam. 1 mm. amplius; *perianthium* album, longum 16 mm.; *ovarium* longum 3 mm., diam. $1\frac{1}{4}$ mm.; *stylus* longus 1 mm.

Rosette acaulescent, 10 cm. across, fairly proliferous from the base and forming large clusters.

Leaves about 34, the young erect, the old ascending, incurved at tip, firm, 55 mm. long, 17 mm. broad and 10 mm. thick below base of end-area, 15 mm. broad at base of leaf, oblong-obovate, acute-acuminate; end-awn 2—3 mm. long, naked, persistent; *face below end-area* slightly convex below, more convex above, smooth, light green, dull; *end-area* retused at an angle of about 40 degrees, 17 mm. long, 16 mm. broad, convex, smooth, with longitudinally arranged whitish flecks, light greenish pellucid, dull, with 4—7 converging lines (3 long, 1—4 short) the middle one nearly reaching the tip; *back* convex, smooth, with a

number of longitudinally arranged oblong pellucid spots towards the tip, light green below, $\pm$ light yellowish green towards the tip, dull, with about 12 darker green lines; *keel* 1, obliquely arranged in the upper $\frac{3}{4}$, acute near tip, with a few scattered whitish teeth mostly towards the tip; *margins* acute below, $\pm$ rounded in the upper $\frac{3}{4}$, with small $\pm$ scattered whitish teeth which become very minute towards the tip and base of leaf.

Peduncle simple, terete, $2\frac{1}{4}$ mm. diam., including the *raceme* 24 cm. long, light brown below; *raceme* about 7 cm. long, about 24 spirally arranged flowers and buds, 3—4 open simultaneously; *pedicels* $2\frac{1}{2}$ mm. long, fully 1 mm. diam., olive green; *sterile bracts* 29, the lower one $1\frac{1}{4}$ cm. from base of peduncle and 35 mm. long becoming shorter above, the upper one 9 mm. long; *fertile bracts* 9 mm. long, ovate-lanceolate, acuminate, white with a fine reddish-brown nerve; *perianth* white, 16 mm. long, the cylindrical-triangular base 4 mm. diam., constricted to 3 mm. above, ascending-spreading, curved; *upper segments* channelled, recurved about 45 degrees, the outer ones $\pm$ acute, spreading, face colour light pink with a fine reddish-brown nerve, the inner segment obtuse, face colour white at tip, whitish-brown below, with a fine nerve which is pink above and greenish-brown below; *lower segments*, the outer ones $\pm$ acute, narrow, replicate towards the tip, very recurved, spreading, face colour white with a fine greenish-brown nerve, the inner segment obtuse, channelled, more recurved, face colour brownish-white with a fine greenish-brown nerve; *stamens* 5 mm. long; *ovary* 3 mm. long, $1\frac{1}{4}$ mm. diam., bright green; *style* 1 mm. long, white, bent, capitate.

Habitat: Cape Province; Riversdale Dist. (Type, G. G. Smith 5378, (Dekenah 18), in East London Museum Herbarium; co-types in Nat. Bot. Gdns. Herb., Kirstenbosch; Nat. Herb., Pretoria).

Distribution: not further known.

This species was collected by Mr. J. Dekenah near Still Bay and sent by him to the Author in Oct., 1943. Compared with *H. retusa* (L.) Haw., the leaves are much longer and more upright, not shining, more pointed, and not as compact. The sterile bracts are very prominent and the lower ones very long.

Haworthia Comptoniana G. G. Smith. (Liliaceae-Aloineae.), Sect. Retusae.

Rosetta acaulescens, lata usque ad $8\frac{1}{2}$ cm.

Folia 20 circiter, longa 45 mm., lata 22 mm.; *parte retusa* convexa, longa 24 mm., lata 20 mm., pellucide viridia, nitentia, lineis 5—7 brevibus et longis valde reticulatis ornata; *subtus* convexa, laevia, basim versus clarissime viridia, apicem versus obscure viridia, non nitentia; *carinae marginesque* minime denticulati.

Pedunculus simplex, longus una cum racemo 22 cm., diam. 1 mm.; *pedicelli* longi 1 mm., diam. $1\frac{1}{4}$ mm., virides; *perianthium* album, longum 18 mm., basi triquetro-cylindrica diam. 5 mm.; *ovarium* longum $3\frac{1}{2}$ mm., diam. $1\frac{3}{4}$ mm., claro-viride; *stylus* longus $\frac{3}{4}$ mm.

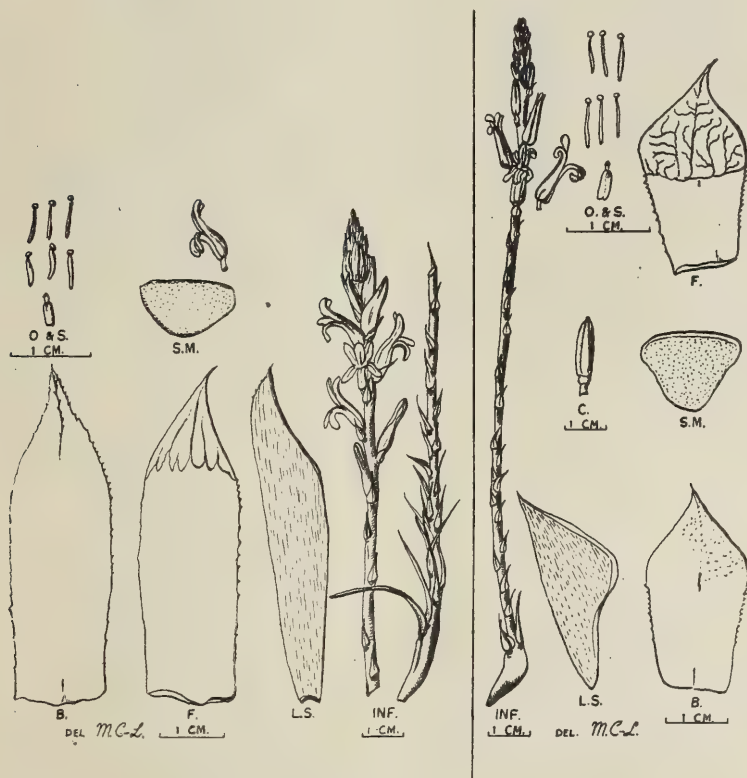


Fig. 4.

H. longibracteata.

H. Comptoniana.

Rosette acaulescent, up to $8\frac{1}{2}$ cm. across, not or hardly proliferous from the base.

Leaves about 20, spreading, incurved at tip, firm, 45 mm. long, 20 mm. broad at base of end-area, 16 mm. thick, obovate, deltoid, with a short ($1\frac{1}{2}$ mm.) whitish end-awn; face below end-area concave, becoming flat-turgid above, smooth; end-area retused at an angle of about 90

degrees, 24 mm. long, convex, $\pm$ flat near tip, smooth or with a few small raised concolorous tubercles, and with white oblong longitudinally arranged flecks, pellucid-green, brownish at tip, shining, with 5—7 short and long very reticulate lines of which 1—2 nearly reach the tip; *back* convex, smooth, with small $\pm$ round immersed light green spots, some of which towards the margins are beset with minute teeth, light bright green below, dark green above, dull, with a number of indistinct longitudinal lines; *keel* 1, obliquely arranged near tip, with small light green teeth in the upper $\frac{1}{4}$; *margins* acute below, rounded towards the tip, beset with small light green to pellucid teeth which are smaller towards the base of leaf and tubercle-like above, along end-area entire.

Peduncle simple, fully 1 mm. diam., 22 cm. long including the raceme, dark brown below; *raceme* 5 cm. long, about 16 spirally arranged flowers and buds, 2 open at a time; *pedicels* 1 mm. long, $1\frac{1}{4}$ mm. diam., green; *sterile bracts* 14, 6 mm. long, the lowest longer and $1\frac{1}{2}$ cm. from base of peduncle; *fertile bracts* 6 mm. long, deltoid, acuminate-subulate, white with a medium-fine dark brown nerve; *perianth* white, 18 mm. long, the cylindrical-triangular base 5 mm. diam., gradually constricted to $3\frac{1}{2}$ mm. above, ascending, $\pm$ curved; *upper segments* obtuse, channelled, face colour of the 2 outer ones white with a fine greenish-brown nerve, recurved, $\pm$ spreading, face colour of the inner one dull white at tip, light brown below, with a medium-fine greenish-brown nerve, only slightly recurved; *lower segments* obtuse, channelled, face colour of the 2 outer ones dull white at tip, light brown below, with a medium-fine green nerve, very recurved, spreading, face colour of the inner one white with a fine greenish-brown nerve, revolute; *stamens* $5\frac{1}{2}$ and $6\frac{1}{2}$ mm. long; *ovary* $3\frac{1}{2}$ mm. long, $1\frac{3}{4}$ mm. diam., light green; *style* $\frac{3}{4}$ mm. long, white, bent, capitate.

Habitat: Cape Province; Willowmore District. (Type, G. G. Smith 3433, in East London Museum Herb.; co-type in Nat. Bot. Gdns., Kirstenbosch.)

Distribution: not further known.

This distinctive species is described from plants collected by Mr. M. Malherbe (No. 5), and sent to the Author in July, 1940. In shape and habit it is nearest to *H. retusa* Haw., but is readily distinguishable by its colour and the very distinct reticulate lines on the end-area. I have much pleasure in naming this beautifully marked plant in honour of Prof. R. H. Compton, Director of the National Botanic Gardens, Kirstenbosch.



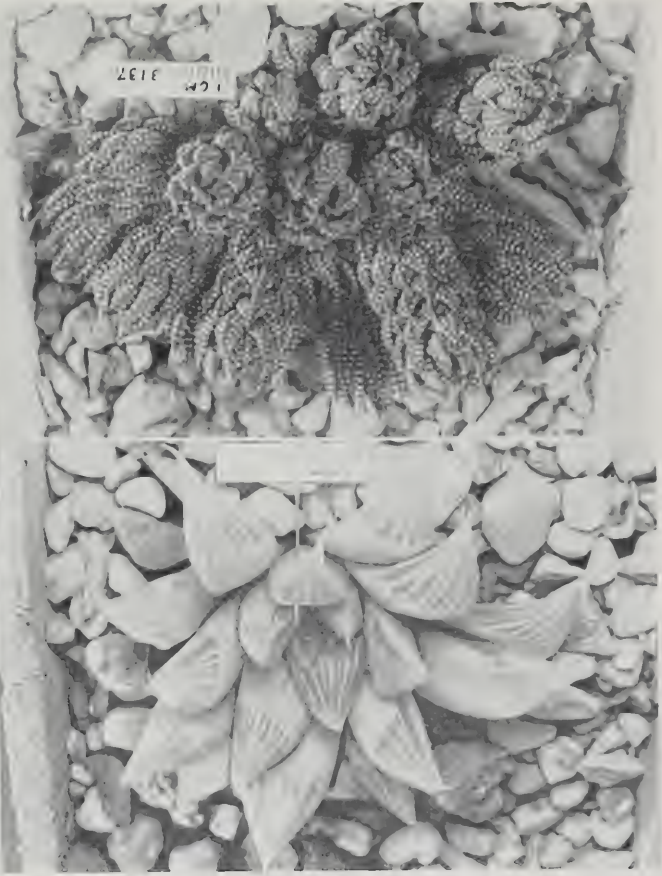
PLATE XI.

H. viscosa var. *viridissima*.
H. asperiuscula var. *sub-integra*.

H. viscosa var. *cougensis*.
H. Dekenahii var. *argenteo-maculosa*.

H. longipetiolata,
H. Kienwanihii var. *bellula*.

PLATE XII.



H. Oregan.
H. Comptoniana.